

540,071

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
8 July 2004 (08.07.2004)

PCT

(10) International Publication Number
WO 2004/056701 A1

(51) International Patent Classification⁷:
C01F 7/44, B01J 8/38, F23C 10/12

C01B 13/32,

(74) Agent: KEIL & SCHAAFHAUSEN; Cronstettenstrasse
66, 60322 Frankfurt am Main (DE).

(21) International Application Number:

PCT/EP2003/014213

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date:

13 December 2003 (13.12.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

102 60 739.7 23 December 2002 (23.12.2002) DE

(84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*): OUT-OKUMPU OYJ [FI/FI]; Riihitontuntie 7, FIN-02200 Espoo (FI).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): HIRSCH, Martin [DE/DE]; Am Vogelschutz 5, 61381 Friedrichsdorf (DE). STOCKHAUSEN, Werner [DE/DE]; An der Bleiche 4, 61118 Bad Vilbel (DE). STRÖDER, Michael [DE/DE]; Dürerstrasse 77, 61267 Neu-Anspach (DE).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PROCESS AND PLANT FOR PRODUCING METAL OXIDE FROM METAL COMPOUNDS

(57) Abstract: The present invention relates to a process for producing metal oxide from metal compounds, in particular metal hydroxide or metal carbonate, in which the metal compound is conveyed into a reactor (25) with fluidized bed, heated there to a temperature of 650 to 1150°C by combustion of fuel, and metal oxide is generated, as well as to a corresponding plant. To improve the utilization of energy, it is proposed to introduce a first gas or gas mixture from below through a gas supply tube (26) into a mixing chamber (20) of the reactor (25), the gas supply tube (26) being at least partly surrounded by a stationary annular fluidized bed (27) which is fluidized by supplying fluidizing gas, and to adjust the gas velocities of the first gas or gas mixture and of the fluidizing gas for the annular fluidized bed (27) such that the Particle-Froude numbers in the gas supply tube (26) lie between 1 and 100, in the annular fluidized bed (27) between 0.02 and 2, and in the mixing chamber (20) between 0.3 and 30.

WO 2004/056701 A1